

Digitalization of Tax: Comparing New Zealand and United Kingdom Approaches

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Abstract

With the sizeable advances in technology and ever increasing demands to reduce costs, numerous revenue authorities are undertaking significant reform to move towards an online platform for engagement with taxpayers and their agents, as well as the basis by which revenue authorities operate. The digitalization of tax has come under the spotlight in both New Zealand and the United Kingdom recently, with concern growing over the impact this new approach will have on taxpayers, along with the associated costs of implementation and technological challenges.

In New Zealand, the *Business Transformation* programme within Inland Revenue has been operating for over three years, representing the largest IT project in New Zealand history. Apart from concern over the inherent risks and potential for cost blowouts, the impact that an online platform will have upon NZ taxpayers, including those that do not currently need to interact with Inland Revenue, has received relatively little attention. Business Transformation has four key stages: enabling secure digital platforms, streamlining all tax types, streamlining social policy, and completing a new tax administration system.

In the United Kingdom, concern has been expressed over Her Majesty's Revenue and Customs (HMRC's) persistence of pursuing the *Making Tax Digital* project with undue speed and without sufficient concern for implementation and other issues, such as those who are 'digitally excluded'. Making Tax Digital is premised upon enabling HMRC to make better use of information, enable tax to be determined in real time, provide a single financial account for each taxpayer, and facilitate HMRC to interact digitally with its 'customers'.

In this paper the authors take a comparative exploratory case study approach to critically examining the approaches taken in each of the jurisdictions, focusing on the risks and challenges raised by each of the digitalization projects. Through this analysis, the paper will suggest lessons that can be learned, not only by the two respect revenue authorities, but by others that may pursue similar digitalization projects.

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1. INTRODUCTION

What is meant by the digitalization of tax? We will commence by looking at what digital means. Inland Revenue New Zealand (IR) defines this as (IR, 2015a, 10):

Digital technology is a way to transfer, process, record, generate and display information electronically. It includes, but is not limited to, internet-enabled systems, email, text, apps, and social media. This discussion document uses “digital” as shorthand for any electronically enabled technology; in whatever form that might take today and in the future.

In one respect this reflects a move away from the traditional paper-based and personal interaction between taxpayers and the revenue authority (and in many respects with their tax preparer), to electronic interactions. It is much more than this in reality. Tax administrations worldwide are going digital, including how they collect and analyse data, as part of a move to collect more tax and collect it more efficiently.

Digitalization is increasingly becoming a tool to detect and reduce evasion and avoidance. One area where this is well developed is that of Country-by-Country Reporting under BEPS. As both EY (2017) and Sadiq and Sawyer (2018) observe, the CbC data will provide tax authorities with close to a full breakdown of a multinational enterprises (MNEs) revenue, profits, tax and other attributes by tax jurisdiction (where CbCR is in place), significantly increasing the volume and scope of information available to them.

Digitalization of tax has significant ramifications for taxpayers. EY (2017) suggest that this includes taxpayers (especially MNEs) examining the following:

- Assessing their readiness,
- Defining their company strategy,
- Monitoring the digital requirements,
- Assessing Data quality and integrity,
- Streamlining data submissions,
- Responding to authority inquiries, and
- Ensuring they are sustainable and improving.

ICAEW (2016, 5, emphasis added) suggests that the following key lessons need to be taken into account:

- Pre-population of returns can provide substantial benefits, but requires extensive collaboration with third parties and will change the nature of the agent / authority / taxpayer relationship.
- Simplicity drives success: *the older and more complex a tax system is, the harder it will be to create an understandable and reliable digital equivalent.*

- *Digital exclusion must not be ignored or underestimated*; those that cannot or will not use digital methods must be properly considered and catered for.
- There are key factors which make different tax systems variously harder or easier to digitalise. For example, pre-existing universal filing, or high levels of tax morale, or a pressing need to crack down on the grey economy can all work in favour of digitalization.

The digitalization of tax raises a number of policy goals. Digitalization can assist with reducing the costs of operating the tax system in the medium to long term compared to analogue (or partially analogue) systems. However, initial set up costs can be substantial. Digitalization could enable governments to develop new areas of social and economic activity that are designed to influence behaviours via tax policy. It will also increase both the volume and organisation of information that government receives, and when associated with more powerful tools of analysis, may provide enhanced information to support national statistics.

Figure 1 below, reproduced from a study by EY, (2018) provides a succinct overview of the interaction of digital tax and tax technology and transformation.

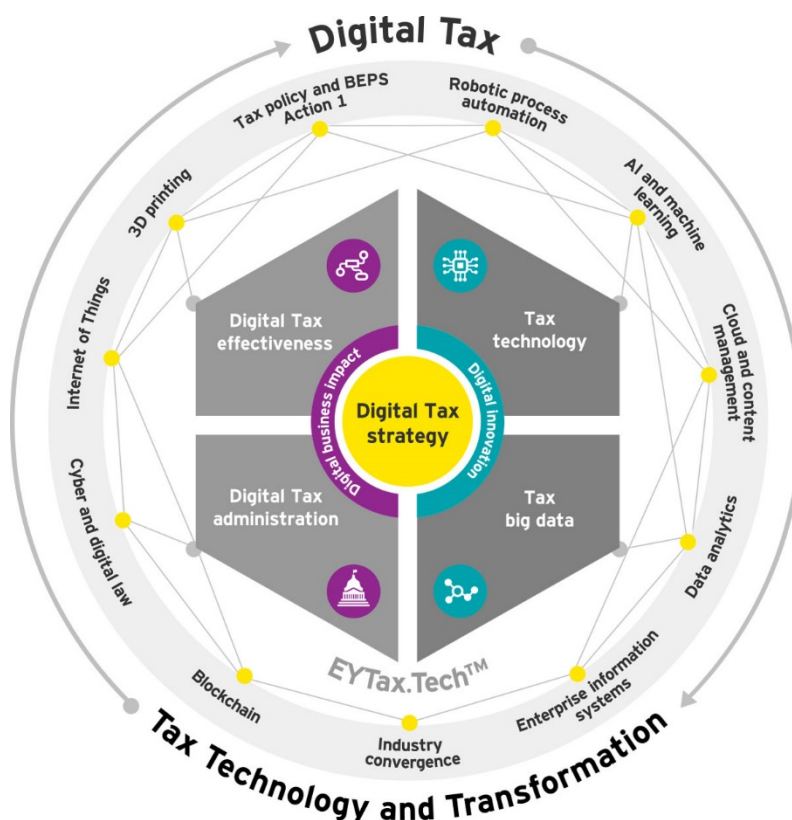


Figure 1: EY Digital Tax, from EY (2018)

The second key issue concerns the meaning of transformation. de Souza Watters and Leong (2014, 54, emphasis added) state:

Organisational transformation *is not about tweaking parts of the system*. Instead, it involves *a whole-system shift in the way an organisation thinks, operates and relates with others*. It is not just about raising standards, working faster or tightening controls, but *redefining an organisation's desired outcomes*. It requires *a shift from the problem-solving mode to a focus on a vision of the desired future the organisation wants to create*. The process is complex, because transformation is an emergent phenomenon, comprising many moving parts and interdependent agents, and requiring individuals to change mindsets and behaviours.

As will be seen later in the paper, we contend that both the digitalization of tax, as expressed in the projects in NZ (IR) and the UK (HMRC), reflect what de Souza Watters and Leong (2014) argue is meant by 'transformation'. The remainder of this paper is organised as follows. Section 2 sets out a brief literature review encompassing studies that look at the digitalization of tax, its effects on organisation (including revenue authorities), and the choice of research method. In section 3 we set out the NZ case study of IR, followed by the HMRC case study in section 4. Our concluding observations and comments are set out in section 5.

2. LITERATURE REVIEW

2.1 Digitalization and technological change – an overview

Reform of tax administration processes, engagement with taxpayers, and greater use of technology is a global phenomenon being embracing by tax authorities. This is often referred to as 'channel shift'. This involves revenue authorities moving away from face to face and postal contact with taxpayers, to call centres and digital channels. Digitalization not only affects revenue authorities but also taxpayers (and their return preparers) through making new technologies available. They also affect the type of skills necessary to operate in such an environment, with technology both replacing existing tasks undertaken by humans, while simultaneously opening up new areas.

Those most affected, according to ICAEW (as reported by Anon, 2017), are taxpayers with poor availability of broadband, complex tax and accounting rules; non-resident taxpayers (such as landlords with difficulty in obtaining information from tenants); medical professionals working from different sites; construction workers; certain tax credit claimants; and those with VAT not covered by current software products.

2.2 Organisational change and its implications

A range of methods exist for implementing a digital strategy by a tax administration (and potentially also by taxpayers). ICAEW (2016, 10-11) suggests these approaches include:

- Shock change (or 'big bang') with a rapid transition from the current to the new platform – very risky;
- Pilot studies – such as trial with one particular tax (e.g. VAT/GST), and choose volunteer taxpayers to test the new system;
- Roll out in a series of phases (e.g. by size, sector, geography, tax type to mandatory), retiring the old system as each new system comes out.

Digitalization creates a number of barriers. ICAEW (2016, 12-15) identify a number of barriers:

- *Digital exclusion* (covering users that are unwilling or unable to use the digital methods to interact, or do not have records in the appropriate format). Education can assist but some full compliance is unreasonable to expect;
- *Cost and complexity* (in the short term the transition incurs costs with the benefits taking some time to materialise). Taxpayers incur costs with usually the need for new software;
- *Security and privacy* (a range of risks are present, including cyber security breaches, with human error a major cause). More information from taxpayers will be gathered by governments, increasing the need for trust and measures to protect taxpayers' rights;
- *Legacy systems* (digitalization is about updating and expanding the current system in most instances – at some point they will no longer be needed);
- *Future-proofing* (use of technology-neutral approaches and future proof for possible future changes, including technological standards, hardware/software and changes to the tax regime);
- *Mission creep* (regular high level review of the project's goals are necessary to keep detailed implementation of track);
- *Limitations on the digitalised tax system* (this includes limits on the type of information the government is supplied with, such as for pre-population of tax returns);
- *Tax morale* (automated systems may be seen as fairer and less open to corruption, along with being easier for taxpayers to use). This can increase morale and in turn compliance itself;
- *Inverting the tax flow* (third parties provide much of the information to the government which reviews this, and in turn taxpayers assess this against their expectation). This will affect the way in which compliance is traditionally viewed, the motivation of taxpayers, and the potential for missed items such as exemptions and deductions.

Tan and Pan (2003) conduct an e-government study of the Inland Revenue Authority of Singapore (IRAS), which was set up in 1992 to administer income and property taxes, and later the goods and services tax (GST). Post the establishment of IRAS, an automated filing system was created, appropriately titled e-filing, from 1998. This was phased to commence with the following (Tan and Pan, 2003, 273-275):

- digitalizing taxpayer information (to cut down paper files);
- automating organizational business processes (80% of 'normal' returns using pre-defined criteria, with the balance assigned to an officer);
- developing a phone-filing system;

- designing an e-filing system;
- maintaining and improving the e-filing system; and
- extending the e-filing services.

Lessons learned from the process include (Tan and Pan, 2003, at 274-5):

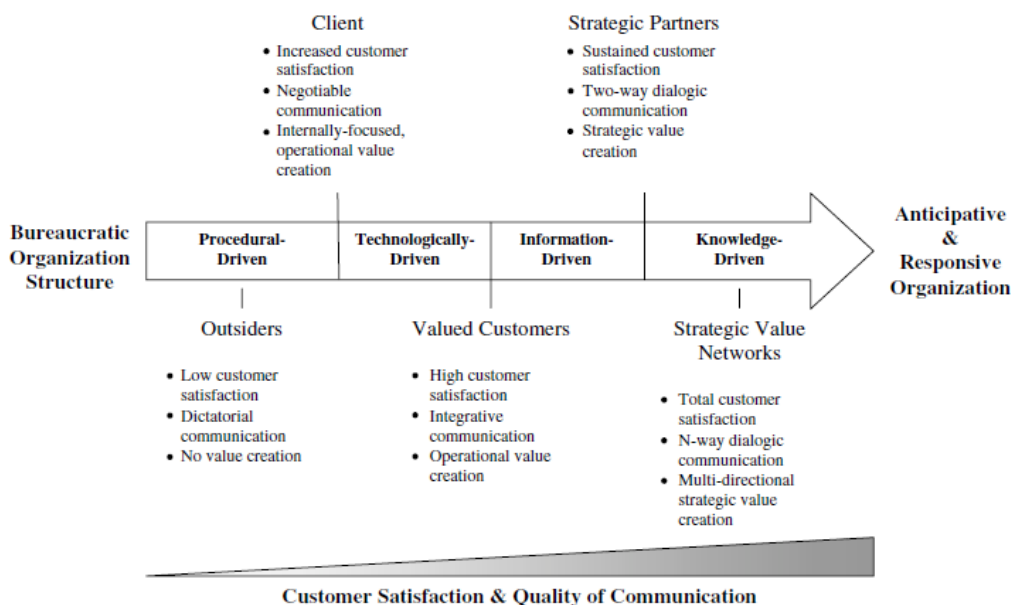
- Treating customers as outsiders leads to low customer satisfaction;
- Limited (improved) customer satisfaction can be achieved through internal operation efficiency;
- Integrative communication yields value for customers and organizational efficiency;
- Two-way dialogic communication leads to sustained customer satisfaction;
- Multi-directional strategic value creation capitulates total customer satisfaction; and
- E-transformation goes beyond the organisational boundary.

The authors observe (at 275, emphasis added):

It is clear from the above account of e-filing development in Singapore that *the traditional thinking associated with the conventional management of customer relations no longer applies in the Internet economy*. The process of e-transformation can be seen to be an inevitable process initiated by an organization seeking to rise up to the competition in an increasing e-environment. This in turn bears significant implications for the future of organizational e-transformation developments.

Tan and Pan (2003) set out the types of organisational structure and responsiveness in their Figure 1, reproduced in Figure 2:

Figure 2: Changing customer relationships as bureaucratic organizations move towards anticipative and responsive practices through e-transformation (Tan & Pan, 2003)



Supporting the comments by ICAEW (2016), Yahya (2017) reports on comments made by Peter Green, from the OECD's Forum of Tax Administration (FTA), who promotes the IRAS as a leader in tax digitalization. The IRAS's programme "Leveraging Analytics, Design and Digitalization" involves pilot testing of changes designed to simplify the tax system and take advantage of technology. This includes the use of mobile devices, a revamped tax portal and intuitive web-responsive design. Green comments (Yahya, 2017):

The pace of technological change means that huge infocomm technology projects may well be outdated by the time they arrive. Tax administrations are increasingly testing new initiatives through pilots and by phased introduction.

de Souza Watters and Leong (2014) also review the transformation of IRAS, and identify a number of key lessons from the process. Essential to the success was a fundamental rethink of the IRAS's mission. Management used their corporate mission and vision to align systems and galvanise people. They used conversation as a capacity enabler. The leaders contributed through connecting and capacity building. Thus in many respects IRAS stands as a 'role model' for IR and HMRC in their respective transformations.

Alongside these organisational changes resulting from the digitalization of tax is the emergence of a new concept, namely blockchain technology. What is this technology? According to Marr (2017):

A blockchain is a distributed database, meaning that the storage devices for the database are not all connected to a common processor. It maintains a growing list of ordered records, called blocks. Each block has a timestamp and a link to a previous block.

Cryptography ensures that users can only edit the parts of the blockchain that they “own” by possessing the private keys necessary to write to the file. It also ensures that everyone’s copy of the distributed blockchain is kept in synch.

Blockchain therefore is a mechanism that utilises technological advances to provide enhanced cybersecurity while granting access to others within a ‘chain. Within a tax context, the revenue authority, along with banks, tax preparers and their clients, may all be part of a blockchain (McCallum, 2017).

What may be an effective way in which to explore the impact of digitalization on organisations and the resulting changes? In the authors’ view comparative case studies have much to offer.

2.3 Case study method and selection of cases

Case study as a research method is often maligned and considered to be a non-scientific approach to undertaking research. Notwithstanding this view, case study research is used extensively in academic enquiry in traditional social science disciplines as well as practice-oriented fields. When adopting a case study approach, the design and analysis considerations are of prime importance, more so often than the description of events or the scenario under review. As Yin (2003) states, the need for a case study arises out of the desire to understand complex social phenomena and allows investigators to retain the holistic and meaningful characteristics of real-life events.

Why choose NZ and the UK as case studies for comparison? Apart from the authors having a reasonable degree of familiarity with these jurisdictions, NZ the UK are both members of the Digital 5 (D5) nations. The D5 nations meet regularly to share best practices and key learnings, collaborate on common projects and help each other become even better digital governments faster and more efficiently. The other three member countries are: Estonia, Israel, and South Korea. Furthermore, both nations are well into significant projects to digitalise most of their respective tax administration systems. Of particular interest to the authors are the similarities and differences in approach to embracing technology and digitalization, in part reflected in state of their legacy systems. In the authors’ view, examination of the complex processes involved in the digitalization of tax can be more meaningfully and holistically examined through comparative case studies.

3. NEW ZEALAND - A CASE STUDY

3.1 An Overview of Business Transformation

Regardless of developments in digitisation, IR was in desperate need of transformation. Mason (2016, 52, emphasis added) observes:

Inland Revenue’s (IR’s) current FIRST computer system, which was state-of-the-art in the early 1990s, has become *increasingly impractical and costly and there are difficulties adding functionality*. Even if the government wished to introduce a capital gains tax or new social policy framework, I seriously doubt that the current system could handle it.

In dealing with a system more than 25 years old, built before the Internet was well understood, and paper was the main source of communication, IR had two options. It could either update its technology first and everything else after that; or change its

technology, policy and processes concurrently. Sensibly it chose the latter approach, which is known as Business Transformation. So what is Business Transformation? In IR's 2017 Annual Report (IR, 2017, 96), it states:

Business Transformation* is a multiyear, multistage change programme that involves our people, processes, policy and technology. The activities within this appropriation will enable a modern, digital revenue system by:

- simplifying policy and legislative settings
- making more intelligent use of information to proactively ensure customers get it right from the start
- fitting revenue processes seamlessly into people's lives
- transforming our organisational capabilities
- implementing a modern technology platform (START) that is digitally based and highly automated.

More information is also available on our Business Transformation website, http://www.ird.govt.nz/transformation*.

Thus *Business Transformation* has as one of its goals to save money for IR, its 'customers', and NZ as a whole. It seeks to also save time for taxpayers and other 'customers', which will also save them money. *Business Transformation* is also intended to make the system more certain. Another goal of *Business Transformation* is to have all of the administration of tax and social policy products moved to the new software and all relevant legislative changes completed by 2020 or 2021 (Power, 2016).

Commissioner of Inland Revenue (Commissioner) Naomi Fergusson is reported as saying (Black, 2017, 48, emphasis added):

All of our research tells us that our customers want to pay the right amount and they want to do that as simply and easily as they can. They're busy running their businesses, running their lives. *Tax should be something that fits in seamlessly with that, not a huge bureaucratic filter.*

IR has partnered with Fast Enterprises to design and supply the software platform for the new administration platform. The role of taxpayers, as well as that of tax preparers, will change with *Business Transformation* (Power, 2016).

Inland Revenue (IR) sees its *Business Transformation* programme as a critical part of working towards its strategic objective and corporate strategy. It fits within IR's overall *IR for the Future* strategy (IR, 2018a). IR's corporate strategy includes *Digital* as one of the six strands, namely: "We fully embrace our place in the digitally connected world". Its strategic objectives include increasing compliance, reducing compliance costs, and making government policy changes faster and more cost-effectively. It is seeking to be customer centric, including involving 'customers' and other stakeholders in its transformation. This is also a feature of the new IR Compliance Model (IR, 2017, 28). In sum, it is fully embracing the digitalization of tax. IR is also seeking to make it easier for taxpayers and others to self-serve using digital services, along with encouraging use of third party accounting software and storage services (such as cloud-based storage).

Two early discussion documents issued in March 2015 provide insights into the way the government was intending to take the IR transformation. Through the consultative process taxpayers and others have been able to provide input into the future stages.

In *Better Digital Services* (IR, 2015a), the emphasis is on IR offering a wider range of secure digital services, while recognising not all taxpayers will be able to make use of such services. Significant benefits are suggested, including:

- greater convenience,
- greater speed and confidence,
- reduction in effort,
- improved, more rapid and responsive customer services,
- reducing the cost of tax administration,
- improved delivery of services across government

Not specifically mentioned in this discussion document are the costs, including those of education, upskilling, need for sufficient broadband and support. IR acknowledges its deficiencies, and sets out the key principles, with the over-arching one being that the services must be designed for the customer (in most instances the taxpayer or their tax preparer). Important also are the following principles:

- No one size fits all,
- Tax compliance and access to entitlements are critical, and
- Change will not be imposed without careful consideration of the costs and benefits.

The intended process to meet these goals is outlined, including specific questions for which submissions are sought through the consultation process. Barriers to achieving these goals within the legislation are identified.

In the *Making Tax Simpler Green Paper* released in 2015 (IRD, 2015b), Mason (2016) notes that the policy focus moved from “dollar perfect” to that of “close enough”. This in parts reflects moves to simplify many of the compliance obligations for taxpayers, especially SMEs. Since the release of these two discussion documents, then IR has released a further eight items (combining discussion documents and feedback on previous consultation), all of which are available at: <https://www.makingtaxsimpler.ird.govt.nz/all-consultations>.

3.2 Elements supporting enhanced digitalization and reflections on experience

In *A Government Green Paper on Tax Administration* (IR, 2015b), the key future steps in the Business Transformation programme are outlined. The following summary of what IR’s processes should like is provided (IR, 2016b, 18, emphasis added):

In short, Inland Revenue’s processes and systems should be *simple*, and make it *easy to get things right and hard to get things wrong*, be *quick and low-effort to use*, provide *more certainty*, and should *not require duplication of*

effort by customers or associated third parties. They should also be flexible enough to move with technology developments.

Business Transformation is a multi-year programme. A road map for the programme is set out in an Appendix to this paper. The program is managed by Greg James, Deputy Commissioner Transformation, supported by an external Transformation Reference Group that includes representatives from business and the tax profession.

Currently the first stage is complete with secure digital services enabled and GST fully transitioned to the new platform. Also in place is an online registration process for new migrants and businesses, and recognition of NZ Business Numbers when contacting IR.

Phase 2 has commenced, and in many ways will be the litmus test of the success (or otherwise) of the *Business Transformation* programme. All of the other remaining taxes will be transitioned during this phase, suggesting the latest period of disruption for taxpayers and tax preparers. A new accounting income measure (AIM) for provisional tax calculations will be in place, as well as making it easier to file PAYE online and moving returns and calculators into the myIR platform. myIR is a secure online account that any taxpayer can register for with respect to their personal tax, or on behalf of an entity. It enables, for example, an individual to:

- Look at account information;
- Delegate access to another person;
- Manage all their GST online, including filing returns and making payments;
- File income tax returns and employer monthly schedules;
- Send IR a secure email;
- Change their address or bank account details;
- Make an instalment arrangement proposal;
- Adjust their income for Working for Families Tax Credits; and
- Check their important dates calendar

MyIR can be set up by tax preparers to manage their clients' taxes, as well as those of the tax preparer's business. It can also be used to manage student loans.

While the roadmap could suggest a defined path for IR, importantly IR is adapting how it will move through the *Business Transformation* programme. Its experience with Phase 1 has led it to implement the rest of the transformation progressively in a series of releases from 2018 to 2021 (IR 2017, 15). This will enable it to explore the options and assess the risks and impacts on its stakeholders. Consequently the roadmap needs to be extended. Consultation on the policy changes will continue throughout the process.

The next series of major changes occur on 17 April 2018, a date chosen based on advice from tax agents (IR, 2018b). myIR and other services will be unavailable from 12-17 April 2018 to enable this next stage to go live. Prior to confirming this date, IR undertook testing of more than 25,000 scenarios before the end of 2017, utilising its Business System Testing team (comprising over 100 IR staff). In addition, "real life"

customers have been used in the design and testing processes. With Phase 1, a number of GST taxpayers were involved in testing the GST MyIR before it went live.

In its most recent update released under the Official Information Act (OIA), *Business Transformation Update* (IR 2017), a detailed reflection of the process to date is provided, along with changes to the initial plans in *Business Transformation*. This refers to IR creating three new organisation groups as from January 2018:

- Customer and Compliance Services – individuals, families and micro-businesses;
- Customer and Compliance Services – SMEs, and
- Information and Intelligence Services.

As at the end of May 2017 (the latest available date with data), NZ businesses had secured 74% of the transformation work. Within this update, the costs and benefits of Stage 2 are summarised in Figure 3 which follows:

Figure 3: Benefits of Business Transformation: Stage 2 (source IR 2017)

Stage 2 non-financial benefits	
Easier for customers	✓
Agility to implement policy	Improved agility for tax products
Revenue system resilience	Improved resilience of technology infrastructure
Stage 2 financial benefits for the period 2015/16 to 2023/24	
Additional assessed Crown revenue	\$2,880m
Compliance effort savings	\$635m - \$1,060m (8 – 14 hours per annum)
Administrative savings from IR	\$260m - \$300m

There is no discussion of how these benefits have been calculated, with no equivalent table outlining the costs of *Business Transformation*, both to the Government as well as an estimate for taxpayers, tax preparers and others. This includes set up, transition and ongoing costs, in addition to maintenance of the existing legacy system. The direct costs alone of *Business Transformation* are expected to be around \$NZ1.5-1.7 billion (Black, 2017). An appendix to this *Business Transformation* update outlines IR's assessment of the transformation risks, ranging from very high risks currently to low residual risks.

Two series of brief reports on overall confidence in delivery of Business Transformation have been released under the OIA. The NZ Treasury (2016) in November 2016, in its *Gateway Review Report*, assessed that successful delivery appears feasible but that significant issues exist requiring management attention. In July 2017 (NZ Treasury, 2017), the assessment was very similar, with mixed comments. While much of IR's approach was considered to be exemplar and the programme was on a positive trajectory, caution was expressed that IR needs to be on "... continual guard against optimism bias and complacency".

KPMG has been contracted to provide independent quality assurance and technical quality assurance. Two reports have been released under s 81(1B) of the Tax Administration Act 1994 (TAA) by IR. In its August 2017 report (KPMG, 2017a), KPMG assess that the programme is 25% behind schedule overall, with resource constraints a major contributing factor. IR was considered to be responding in an appropriate manner. In its December 2017 report (KPMG 2017b), programme readiness for the next stage was assessed to have significant risks in meeting the go-live date. The report was positive in terms of IR's planning for stage 2 learning from the experiences of stage 1.

What can we expect moving forward under *Business Transformation*? Mason (2016, 52, emphasis added) suggests:

There will be both learnings and teething issues with the roll-out of such a complex system and the myriad of policy and mechanism changes being introduced to support BT. *I anticipate increased but targeted review activity being instigated by IR, given the dramatic changes to tax rules, and IR's future analysis of the better quality of information flowing to them.* Although I would expect a measured IR approach to such given the degree of change, *accountants should consider whether their clients should be offered tax audit insurance, such as Audit Shield, in order to avoid any unplanned professional fees which may arise as a result.*

There will also be significant reductions in IR's staffing numbers, an issue which IR has been upfront about and engaging in consultation with the unions. Specifically IR plans to cut almost 2000 jobs (or approximately 30 percent) from the number employed as at mid-2017 (5647) to 3700 by 2021 (Pullar-Strecker, 2017). Most of the reduction is due to *Business Transformation*. However, according to the Public Services Association (PSA) union, as many as 4000 employees of IR would see their jobs change, with at least 3,300 having role changes (RadioNZ, 2017).

3.3 A critique of progress and overall evaluation

With IR's *Business Transformation* programme close to its 'mid-point', and the most crucial phase yet to be completed, this critique is in a sense preliminary only. What can be said is that the lessons from the work undertaken to date have in the main been taken into account in adjusting the remainder of the project to maximise its chances of success. It is well known that a significant percentage of large IT projects will either fail or fall well short of expectations (see Hughes, Rana, and Simintiras, 2017). Where do we see *Business Transformation* at present, and what are our predictions for its future?

There can be no doubt that *Business Transformation* is much more than implementation of a new IT system for IR. It reflects a major change in IR's approach to tax administration, including reskilling of staff, placing 'customers' at the centre of the transformation, as well as moving towards an enhanced digital platform. The observations from de Souza Watters and Leong's (2014) review of IRAS appear to be followed, although there remains some doubt over the extent to which staff could be influential in the conservation process accompanying *Business Transformation*.

Business Transformation is running behind schedule, although IR senior management has made a significant effort to adjust the timeframe to account for this. The overall process has been largely transparent (commercial secrecy preserved where necessary),

with consultation a hallmark through numerous discussion documents. The first phase with GST, while not without its teething issues, has largely been a success. The most significant phase will have much more substantial consequences should it not work fully as intended. It would appear that costs will be much closer to budget than is typical of large IT infrastructural projects.

External quality control reviews, to the extent these have been made publicly available, have highlighted that the programme is running around 25% behind schedule, although the process is largely exemplar. The impact that this delay will have on costs is not clear as yet. Senior management of IR have been reminded that they need to be on “... continual guard against optimism bias and complacency.” Recognition of those adversely affected by digitalization in the main appears to have been recognised, to the extent that this is within the control of IR (for example, access to broadband is beyond its control). However, in our view, *Business Transformation* has yet to fully address how it will accommodate those taxpayers that are either digitally challenged or digitally excluded be addressed, particularly in the medium term when the current system is ‘switched off’.

With *Business Transformation*’s completion at further three years away, it can be argued that this critique is premature, which is in some respects a fair assessment, since major infrastructural projects usually experience a number of significant challenges in their early stages. A more comprehensive (and complete) evaluation would be possible once all of the features are in place and have been tested. The early experience to date suggests that *Business Transformation* is much nearer the exemplar end of the scale than other major IT and infrastructural projects in NZ, such as Novopay, the system for managing payrolls for staff of NZ schools (Deloitte, 2013; NZ Government, 2013). It has some way to go, including implementation of the most challenging components, if it is to mirror the success of Singapore’s IRAS transformation.

4. THE UNITED KINGDOM – A CASE STUDY

4.1 An Overview of *Making Tax Digital*

In the UK plans for the digitalization of tax have been ambitious. The Chancellor of the Exchequer stated in his Spending Review and Autumn Statement 2015 speech, Hansard (25 Nov. 2015, col. 1361):

We are going to build one of the most digitally advanced tax administrations in the world in this Parliament, so that every individual and every small business will have their own digital tax account by the end of the decade in order to manage their tax online.

This ‘bold vision’ was set out by HM Revenue and Customs (HMRC) in its document *Making Tax Digital* (HMRC, 2015) which described how this might be achieved by 2020 and an updated version is available (HMRC, 2017b). Although the plans for the digitization of tax were among the most challenging in the UK, they should be seen as part of the process of digitization more generally.

The adoption of computing has been described as coming in four waves (Stephen et al. 2011, 16). The first wave largely took place from 1956 to 1976 and involved the development of centralized mainframe computers. The second wave from 1976 to 1992 saw the spread of personal computers which evolved into the third wave of networked computing. The fourth wave from 2008 onward has been described as ‘IT everywhere’.

Such changes have been reflected in government though often following rather than leading such developments. The Government Digital Service (GDS) was set up in 2010 as part of the Cabinet Office to assist in the introduction of digital services and is responsible for setting standards such as the 'Digital Service Standard' and the 'Technology Code of Practice' (Government Digital Service, 2018). The Government Digital Strategy was introduced in 2012 to further boost digitalization by promoting 'digital leadership' and digital capability and to 'redesign transactional services to meet a new digital by default service standard' (Cabinet Office 2012).

However, progress has not always been smooth and, for example, Andrews et al. (2016) examined the challenges of moving from relative small scale changes to what is sometimes called a 'transformation'. Thornton and Campbell (2017) argued that digitalization faces resistance in some 'corners of government' and that the GDS has not been able to develop digital improvements in line with expectations. With this background the digitalization of tax may to some extent be seen as helping to lead the process in government more generally. Indeed it might also encourage some businesses towards greater digitalization.

HMRC has described its 'bold vision' for *Making Tax Digital* (MTD) as follows HMRC (2015, 4, emphasis added):

The vision set out here is about much more than simply adding digital tools to the current system: it is about *transforming the UK tax system into something that feels completely different*. HMRC will collect and process information affecting tax in as close to real time as possible, stopping tax due or repayments owed from building up. Individual and business taxpayers will no longer have to wait until the end of each tax year before knowing how much tax they should pay, avoiding any surprises and helping them to plan their financial affairs with more certainty. And taxpayers will be presented with a *complete financial picture of their tax affairs in their digital account, able to see and manage all of their liabilities and entitlements together for the first time*. This document sets out how this bold vision for the future of the tax system will be achieved by 2020.

The vision for a transformed tax system of 2020 had four foundations:

- simplifying tax in that taxpayers would no longer have to give HMRC information it already had;
- making tax digital for businesses including collecting and processing information as close to real time as possible;
- digital accounts so that taxpayers can see their complete tax affairs in one place; and
- a system set up so that individual taxpayers can interact digitally with HMRC at any time to suit them.

In the development of such a vision, digitalization was seen by HMRC as building on earlier moves to integrate services, improve the use of data and increase the use of modern technology. A particular feature was developing and expanding the use of digital accounts but there were also wider aspects. Perhaps one of the most fundamental was that face to face meetings with taxpayers were seen as less necessary. Hence 137

offices are being closed (90% of the total) and 13 new regional hubs and specialist sites are being developed which will accommodate almost all its staff over the following ten years (see, for example, HMRC 2016a, 42 and 46). However, earlier experiences suggest that such plans do not always proceed as intended.

4.2 The risks of digitalization

In the early stages of computerization HMRC's predecessor – the Inland Revenue (UK) – planned to set up nine computer centres to deal with the taxation of employees across the UK. The first of these was Centre 1 at East Kilbride which was set up in 1970 and took over the work of 67 local offices in Scotland involving the taxation of around two million employees. However, the proposals for the other eight centres were shelved for several reasons. These included difficulties in recruiting and retaining large concentrations of staff and vulnerability to industrial disputes. It was also thought local offices were more convenient for taxpayers (Barr, James and Prest, 1977, 22-3). Interestingly when one of the present authors visited Centre 1 in 1975, he was informed that when the Centre was set up it was assumed there would be little demand for personal visits from taxpayers since the great majority of them lived significant distances away. In fact it turned out this was much less of an obstacle than had been thought and large numbers of visits continued – some organizations such as the Women's Institute even organized mass visits for members by coach. The original facilities for only two personal callers to be seen at a time had to be increased many times over.

Perhaps digitalization will enormously reduce the demand by taxpayers for personal contact but risks to the strategy remain. The National Audit Office (NAO) (2016, part 2) described some of them, in particular where assumptions underpinning the plans are not realistic, for example, echoing the experience of Centre 1 at East Kilbride, if taxpayers were reluctant to turn to online services and rely less on telephone and postal communications. The NAO cited more recent optimistic assumptions HMRC had made about reducing telephone enquiries from taxpayers. HMRC had reduced customer service staff before that had actually happened leading to a significant fall in the quality of its taxpayer service for 18 months.

The professional bodies also responded with caution. For example, in response to the HMRC's (2016b) consultation paper *Making Tax Digital: Bringing business tax into the digital age*, The Institute of Chartered Accountants in England and Wales (ICAEW, 2017) stated that it supported the move to a digital tax system but that it should be designed and built to meet not only the needs of HMRC but also the needs of taxpayers and 'what works best for them'. They summarized that by saying that HMRC's plans for MTD should be designed as a taxpayer-centric system (para. 5). The response by the Chartered Institute of Taxation (CIOT, 2016) was similar, saying that while MTD will bring benefits to HMRC, the likely outcome for businesses and taxpayers would be an increased workload or costs or both. The CIOT argued that the timetable for MTD was far too optimistic and must be pushed back (paragraphs 2.1 and 2.2). Both professional bodies also made much more comprehensive and detailed responses to the proposals.

4.3 The implementation of *Making Tax Digital*

HMRC has been conscious of the need to proceed carefully and in 2016 set up a consultative process which generated responses such as those in the previous paragraph

(HMRC 2017c). Six consultation documents were published, each focusing on specific 'customer groups' or specific elements of the *Making Tax Digital* reforms. These were:

- Bringing business tax into the digital age;
- Simplifying tax for unincorporated businesses;
- Simplified cash basis for unincorporated property businesses;
- Voluntary pay as you go;
- Tax administration; and
- Transforming the tax system through the better use of information.

There was also a document *An overview for small businesses, the self-employed and smaller landlords* (HMRC, 2017e) which provided an easier way to respond to the consultations than following the full formal consultation procedure. A summary of the responses to each of these documents have also been published and links to them can be found in HMRC (2016c). The responses included concerns about the pace of change, the ability to cope of some, particularly small businesses, and taxpayers who have difficulties with digital technology and digital security. The Government responded to such concerns as for instance documented in HM Treasury (2017) which announced a new timetable whereby:

- only businesses with a turnover above the VAT threshold (currently £85,000) will be required to keep digital records and then only for VAT purposes;
- these business will only be required to keep digital records from 2019; and
- businesses will not be asked to do so, or to update HMRC quarterly, for other taxes until at least 2020.

MTD will be available on a voluntary basis for the smallest businesses who can choose when to move to the new digital system. It was also announced that MTD services were already being piloted. Piloting VAT was to be started with small-scale private testing followed by a wider live pilot starting in Spring 2018. The aim was to have well over a year of testing before businesses are required to use the system.

For individuals MTD is based on the Personal Tax Account (PTA) which is designed to contain all of an individual taxpayer's information in one place online. The PTA allows taxpayers not only to deal with their tax affairs but also enables them to check their state pension and National Insurance record, manage their tax credits and Child Benefit payments and allow a family member or friend to manage their tax affairs on their behalf (HMRC, 2017d). The PTA continues to be developed and over time taxpayers will no longer be required to complete tax returns. The use of PTAs has grown fairly rapidly since their introduction at the end of 2015 and the number of new users reached 9.4 million by March 2017 (HMRC, 2017a, 31).

For businesses, as indicated above, the pace of change has been modified to give them more time to adapt to the changes. Every small business now has access to its own digital Business Tax Account and it is expected most small businesses will be interacting directly via accounting software with HMRC systems and 'roll out' is to be completed by 2020-21 (HMRC, 2017a, 31).

4.4 A critique of progress and overall evaluation

It is too early in the process to offer more than a very preliminary review of progress, not least because adverse effects may not emerge until a late stage in the change process, as indicated by the examples given above of the experience at Centre 1 and the situation described by the NAO.

However, the potential benefits of digitalization potentially are such that change is necessary and a transformational rather than piecemeal change has considerable advantages. HMRC has proceeded with care and the consultation process has led to improvements in the way MTD is being implemented. There has also been considerable support for MTD and a good proportion of individual taxpayers have already used their PTAs.

Problems may emerge with respect to those who have not used PTAs and may have difficulties in doing so. Such individuals include those who have been variously described as the 'digitally challenged' or the 'digitally excluded'. Even without digitalization it is clear there are many taxpayers facing difficulties. A current research project being conducted by one of the present authors with Jane Frecknall-Hughes and Barbara Summers is investigating the difficulties faced by older people based on the files of a tax charity *Tax Volunteers*. This runs *Tax Help* which provides free expert help and advice for older people on lower incomes. It has over 500 tax volunteers and operates via post, email and a low cost telephone line as well as holding face-to-face meetings at local venues and home visits for people unable to travel (Tax Help for Older People, 2018). For the financial year to the end of March 2016, *Tax Help* received over 67,000 queries and requests for help. Many of the most frequently raised issues are likely to apply to the population as a whole, though older people are more likely to suffer bereavement or illness which affects their ability to deal with their tax affairs. It is clear from the *Tax Help* files that MTD will not always be easy for some older taxpayers, and perhaps others, to deal with successfully. While HMRC does provide taxpayer assistance the activities of *Tax Help* suggest it might not be effective in many cases.

Linked to this are concerns about the reduction in HMRC offices, with 137 out of 170 offices around the country to be closed over the five years to 2020-2021. This will affect 60,000 staff with an unconfirmed number of job losses. The result will see 13 super hubs (regional offices). The House of Commons Committee of Public Accounts (2017, 6) concluded:

The scale of HMRC's relocation plan carries a high risk of disruption to its core business of collecting tax and serving customers. HMRC has embarked on one of the largest organisational change programmes in Europe. It is carrying out 15 large and interdependent change programmes and will have to deal in the same period with the consequences of Brexit. There is a significant risk to maintaining business as usual while moving to new premises and relocating so many of its employees. Around 38,000 of HMRC's employees will need to move to a different office, or leave, when their workplace closes. HMRC expects around 5,000 employees will leave because of its relocation programme. It accepts that this loss of staff will drain corporate memory and expertise but does not yet have a solution. HMRC already experiences too high a level of staff turnover, with 5–6,000 staff leaving each year, and it will take time to recruit and train staff in the new regional centres.

In the long term such temporary disruption should be overcome and, more generally, the digitalization of tax in the UK has got off to a good start. The willingness of HMRC to consult taxpayers and adapt the implementation of MTD has clearly improved the process and the likely outcomes. However, there are some significant challenges ahead and one of the biggest will be catering for taxpayers who may be willing to comply with the tax system but genuinely find it difficult to do so. The files of *Tax Help* show there are many taxpayers who cannot cope on their own and cannot afford professional tax assistance.

MTD might make things easier in some cases – as indicated above it could allow a relative or friend to manage someone's tax affairs on their behalf. For other taxpayers including, of course, the 'digitally excluded' MTD could add to their difficulties. Furthermore it has become increasingly difficult over the years for taxpayers to ask for official help on a face-to-face basis. In 1982 there were 770 local tax districts each with an enquiry counter for personal calls by taxpayers (Board of Inland Revenue, 1983). The present move to only 13 regional offices suggests a high priority should be exploring and developing ways of improving official assistance and support to taxpayers where needed.

5. COMPARATIVE CASE ANALYSIS: DISCUSSION AND CONCLUSIONS

New Zealand and the UK are both actively moving into the digital space through their *Business Transformation* programme and *Making Tax Digital* project, respectively. Both projects are ambitious, and assuming are successfully implemented in full, will transform the way in which taxpayers (and their agents) interact with the revenue authority. What features do they have in common, and what are the observable differences?

Both revenue authorities are seeking to be amongst the most digitally advanced revenue authorities once their projects are completed. Assuming they are successful then this is likely to be an accurate assessment. Both have recognized there are risks involved, and to varying degrees, have experienced some of the significant challenges, the most significant being delays in progress and 'teething issues' with the parts that are operative. Fortunately both have continued to run their digital platform alongside their current systems, and adopted a phased implementation approach. The HMRC had been overly optimistic initially with the timeframe and challenges of the programme, with IR more circumspect in this regard.

Both revenue authorities have acknowledged that there will be taxpayers facing significant challenges and obstacles to utilise the new digital framework, especially where there is a lack of reliable broadband, and for elderly taxpayers that are uncomfortable with engaging with the new digital technology. There will continue to be challenges for both IR and HMRC to fully address the concerns of the digitally challenged and digitally excluded members of the taxpaying population.

Both revenue authorities will, by the time their new systems are fully operational, have laid off a significant proportion of their staff, especially those that were employed with manual processing tasks and face to face operations with taxpayers. This comes with numerous risks, including the overall effect on morale.

A risk that has perhaps been underestimated are the consequences from a lack of personal engagement with taxpayers – some will see this as an opportunity to work

outside the system, while others may not receive the benefits that digitalization may bring. Both revenue authorities have taken this as an opportunity to review their overall administrative operations, including in the case of NZ to rewrite parts of its Tax Administration Act 1994. Inland Revenue has released external reviews of its progress to date, providing a degree of independent assurance over the project's implementation with respect to key issues such as timeliness, cost and effective operation. It would be useful to see similar analysis for HMRC.

One key risk both projects face is the inescapable reality of the low success rate of IT (and related) projects, attributed mainly to poor project management. One of the key issues is the need to embrace and effectively implement change management, in addition to the technical aspects of implementing the new IT system (Hughes, Rana, and Simintiras, 2017).

Overall, both IR's and HMRC's projects are displaying many of the hallmarks of the IRAS's successful transformation project. It will be most interesting to see how they eventually compare when their respective transformation projects are 'complete.'

A significant limitation of this paper is that the assessments have been made on incomplete projects. While the early analysis may reveal issues that need to be addressed, a more concrete evaluation cannot be made until the projects are complete, which at the time of writing are a number of years away. We intend to maintain a watching brief and undertake a further comprehensive review once the projects are complete and fully implemented.

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Appendix: IR: The Business Transformation Road Map

